

**REMARKS**

Claims 19-24, 27-46 and 49-64 are pending in the application.

**1. CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)**

The Patent and Trademark Office (PTO) has maintained the rejection of claims 19-24, 27-46 and 49-56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,527,819 to Williams *et al.*, hereinafter, "Williams." The PTO alleges that the compounds of the instant claims are obvious homologs of the compounds disclosed by Williams. Applicants respectfully traverse. The PTO alleges that it would have been obvious to one of ordinary skill in the art to utilize a compound as claimed, wherein R<sup>4'</sup>, R<sup>6'</sup> or R<sup>7'</sup> is a non-hydrogen, because under *In re Henze*, 85 U.S.P.Q. 261 (CCPA 1950), adjacent homologs are considered to be obvious absent unexpected results (Office Action at page 5). The PTO further alleges, under both *In re Henze* and *In re Hass*, 141 F.2d 127, 60 U.S.P.Q. 548 (CCPA 1944), that members of a homologous series must possess unexpected properties not possessed by compounds disclosed by the prior art (Office Action at page 5). In response, Applicants submit that the claimed compounds are not "adjacent homologs" to the compounds taught by Williams, and therefore no presumption of obviousness arises under *In re Henze*. Absent such a presumption, the PTO has not made out a *prima facie* case of obviousness as required under 35 U.S.C. § 103(a).

The Court in *In re Henze* defines a homologous series as "a family of chemically related compounds, the composition of which varies from member to member by CH<sub>2</sub>." 85 U.S.P.Q at 264 (citing *In re Loring Coes, Jr.*, 173 F.2d 1012, 81 U.S.P.Q. 369 (CCPA 1949)). The Court held that the claimed compound, 5-isopropoxymethyl-5-phenylhydantoin, was obvious in view of the prior art compound, 5-ethoxymethyl-5-phenylhydantoin, which differed from the claimed compound by a CH<sub>2</sub> group. 85 U.S.P.Q at 263. Similarly, in *In re Hass*, the Court held that the claimed compound, 1-phenyl-2-nitro-1-butene, was obvious in view of 2 adjacent lower homologues disclosed by the prior art: 1-phenyl-2-nitro-1-propene and 1-phenyl-2-nitro-1-ethene. 60 U.S.P.Q. at 546. Each member of the homologous series was distinguished by a single CH<sub>2</sub> group. Thus, in both *Hass* and *Henze*, obviousness was found where the claimed compound was distinguished from the prior art compound only by the adjacent addition of a CH<sub>2</sub> group.

In contrast, the compounds of the instant claims and the compounds disclosed by Williams differ more substantially than the mere presence or absence of a CH<sub>2</sub> group. While

Williams teaches substituted indole compounds that are either unsubstituted or mono-substituted at the 5-position on the phenyl ring of the indole, the compounds of the instant claims contain at least 2 substituents on the phenyl ring of the indole, at the 4-, 6- or 7-positions. Thus, the claimed compounds differ from the compounds taught by Williams by substitution of at least one hydrogen on the phenyl ring of the indole with one of the groups listed in claim 19. Applicants submit that the difference created by this substitution is substantial, and that the biological properties of the resultant compounds could not be predicted based on structural similarity alone. In no circumstance can a compound encompassed by the instant claims be distinguished from the compounds disclosed by Williams only by the mere addition or subtraction of a CH<sub>2</sub> group. Therefore, the PTO's application of the holdings of both *In re Henze* and *In re Hass* to the instant case is misplaced. The Court of Customs and Patent Appeals has stated that both *In re Henze* and *In re Hass* should be narrowly construed:

Where an invention for which a patent is sought is a compound which is a member of an homologous series and the prior art discloses a nonadjacent member of that series, we do not consider the Hass and Henze cases authority for the legal presumption of obviousness of the claimed invention.

*In re Elpern*, 326 F.2d 762, 767, 140 U.S.P.Q. 224, 228 (CCPA 1964) (citing *In re Mills*, 281 F.2d 218, 221, 126 U.S.P.Q. 513, 516 (CCPA 1960)). Thus, no presumption of obviousness can be made in view of the structural dissimilarity between the claimed compounds and those taught by Williams.

With regard to an obviousness determination under 35 U.S.C. § 103(a), the U.S. Supreme Court has recently acknowledged the importance of identifying “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1731 (2007). The Court noted that the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” 127 S. Ct. at 1741. Further, the Federal Circuit has recently reviewed the requirements for making a *prima facie* case of obviousness for chemical compositions in view of *KSR*. See *Takeda Chemical Industries, Ltd. and Takeda Pharmaceuticals North America, Inc., v. Alphapharm Pty., Ltd. and Genpharm, Inc.*, 2007 U.S. App. Lexis 15439. “In addition to structural

similarity between the compounds, a *prima facie* case of obviousness also requires a showing of ‘adequate support in the prior art’ for the change in the structure.” *Id* at 9 (citing *In re Grabiak*, 769 F.2d 729, 731-732 (Fed. Cir. 1985). A showing must be made that the “prior art would have suggested making the specific molecular modifications necessary to achieve the claimed invention.” *Id* at 9 (citing *In re Deuel*, 51 F.3d 1552, 1558 (Fed. Cir. 1995); *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992); *In re Dillon* 919 F.2d 688 (Fed. Cir. 1990); *In re Grabiak*, 769 F.2d 729; *In re Lalu*, 747 F.2d 703 (Fed. Cir. 1984). Thus, in cases involving new chemical compounds, it is necessary to identify “some reason that would have led a chemist to modify a known compound in a particular manner to establish *prima facie* obviousness of a new claimed compound.” 2007 U.S. App. Lexis 15439 at 10.

Applicants respectfully submit that the PTO has not provided a reason why one of ordinary skill in the art would modify the teachings of Williams and arrive at the compounds of the instant claims. In particular, no reason has been articulated as to why the skilled artisan would substitute at least one hydrogen at the 4-, 6- or 7-positions of the phenyl ring of the unsubstituted or mono-substituted indole compounds of Williams with one of the substituents recited in claim 19. Because the PTO has not met this burden, the instant claims are not obvious. Accordingly, withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

In view of the foregoing, Applicants respectfully request the rejection of claims 19-24, 27-46 and 49-56 in view of Williams under 35 U.S.C. § 103(a) be withdrawn.


### CONCLUSION

In light of the above remarks, Applicants respectfully request that the Patent Office reconsider this application with a view towards allowance. Applicants submit that the pending claims satisfy all of the criteria for patentability and are in condition for allowance.

Pursuant to 37 C.F.R. §1.136 (a)(3), the Commissioner is authorized to charge all required fees, or credit any overpayment, to Jones Day Deposit Account No. 50-3013 (order no. 417451-999076).

Respectfully submitted,

Date: July 20, 2007

  
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